

CLAIMS

1. A hydrocarbon-reforming catalyst, which comprises:
 - a porous body, which is formed from at least one oxide powder of magnesia, alumina, zirconia, titania and calcia, as a carrier; a complex oxide, which is formed by calcining said porous body, which is simultaneously impregnated with at least one catalytic-activity constituent selected from the group consisting of Ni and Co and at least one carrier-forming constituent selected from the group consisting of compounds of Mg, Al, Zr, Ti and Ca, on a surface of said porous body; and catalytic-activity particles, which are produced from said complex oxide by activation and distributed on the surface of said porous body with the dispersion that 80% or more of said catalytic-activity particles is shared by fine particles of 3.5 nm or less in size.
2. The hydrocarbon-reforming catalyst defined by Claim 1, wherein the catalytic-activity particles are one or more of metals and compounds of Ni and Co.
3. A method of manufacturing a hydrocarbon-reforming catalyst, which comprises the steps of:
 - providing an impregnating solution, which contains at least one catalytic-activity constituent selected from the group consisting of salts and compounds of Ni and Co and at least one carrier-forming constituent selected from the group consisting of salts and compounds of Mg, Al, Zr, Ti and Ca;
 - soaking a porous preform, which is formed from at least one oxide powder of magnesia, alumina, zirconia, titania and calcia, in said impregnating solution, whereby said catalytic and carrier-forming constituents are simultaneously infiltrated into at least a surface layer of said porous preform;
 - calcining said porous preform impregnated with said catalytic and

carrier-forming constituents at a temperature of 700°C or higher in an oxidizing atmosphere, whereby said catalytic-activity and carrier-forming constituents are converted to a complex compound(s); and

heating said calcined porous preform at a temperature of 500°C or higher in a reducing atmosphere, whereby fine catalytic-activity particles are produced from said complex oxide(s).

4. The catalyst-manufacturing method defined by Claim 3, wherein the impregnating solution has a mole ratio of the carrier-forming constituent to the catalytic-activity constituent adjusted to a value within a range of 0.5-5.